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Regulars

Proving that it works



Don't believe that the three-weighings solution to the Great Weights Puzzle really works? Here's a little demonstration for the skeptics among you!

First of all, please choose one of the twelve weights (numbered one to twelve) to be the odd-weight-out. Decide whether it is lighter or heavier than the rest. Remember what you've chosen!

Now, you are asked below to specify the outcome of each of three weighings. For each weighing, four weights will be specified (by number) for the left side of the scales, and four weights for the right side.

Look for your chosen weight in each weighing. If it is heavier, the side of the scales on which it is found will of course be heavier, and similarly, if it is lighter, that side of the scales will be lighter. If it is not present in the weighing, both sides of the scales will be the same.

Fill out the form now, making sure you enter the result for each weighing:

First weighing

LEFT SIDE	RIGHT SIDE	
1, 3, 6, 12	2, 4, 5, 11	Left side heavier / right side lighter
		Right side heavier / left side lighter
		Both sides are the same

Second weighing

LEFT SIDE	RIGHT SIDE	
1, 2, 7, 8	3, 4, 10, 12	Left side heavier / right side lighter
		Right side heavier / left side lighter
		Both sides are the same

Third weighing

LEFT SIDE	RIGHT SIDE	
8, 9, 10, 11	1, 2, 3, 5	Left side heavier / right side lighter
		Right side heavier / left side lighter

Proving that it works

Both sides are the same

K.E.M.



Plus is part of the family of activities in the Millennium Mathematics Project, which also includes the NRICH and MOTIVATE sites.